THE VETERINARY RECORD

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S., 1888

No. 35. AUGUST 28, 1948 VOL. 60.

Black Disease in Shropshire and the Prophylactic Effect of Clostridium oedematiens Serum

By

W. H. PARKER, B.SC., M.R.C.V.S.

VETERINARY INVESTIGATION OFFICER, WOLVERHAMPTON

The recognition of black disease of sheep in Scotland by Jamieson (1948) and its investigation has aroused interest in this problem and the possibility that it occurs elsewhere in Great Britain must be considered. It has already been recognised on one Shropshire farm and the purpose of this article is to give an account of the disease as it occurs there and its control by the use of *Cl. oedematiens* serum.

The Disease

The farm is situated on the Welsh border 650 to 700 feet above sea level with some rough hill grazing at 750 feet. The pasture includes a large acreage of ley which is exceptionally lush for a sheep farm, and the flock has always been maintained in very good condition. Kerry Hill sheep were kept and before the losses commenced the flock consisted of about 120 ewes with their lambs and 120 yearlings, but the ravages of the disease, averaging 40 per cent. of the ewes annually for the past four years, reduced the flock to 72 ewes and 60 yearlings by 1948. No losses have occurred during the first year of life, but losses in the yearling ewes, which each year constitute about half the ewe flock, have been on the same scale as in the older ewes. By contrast only three yearling wethers have been lost in the four years, although they are all retained in the flock. September, October and November have been the months in which the losses occurred, but two ewes were lost in August, 1947.

The disease appears to be carried by the farm rather than the flock, for sheep sold in late September, 1946, suffered no losses in their new district. It is the usual practice on the farm to put store Hereford cattle on the rough hill grazing, leaving the sheep on the better land. When the 1947 losses commenced, however, the sheep were placed on the hill grazing. There were no further losses for five weeks, but then there were five in rapid succession, so the attempt to prevent the disease by transferring the sheep to this rough grazing was of no avail.

Symptoms.—Death was quite sudden as in enterotoxaemia, a disease which although widespread in Shropshire (Bythell, 1946) does not cause such heavy losses as those sustained in this outbreak of black disease. The dead ewes were more commonly found between 10 a.m. and dusk than first thing in the morning. Thus it was possible to identify affected sheep at an early stage in the disease and follow its course. They were at first listless, lagged behind the flock and rapidly became comatose, dying without a struggle in from one to six hours.

Post-mortem Findings.—Twenty-five autopsies have been carried out since the investigation of this problem commenced in 1945, and the principal features were the presence of a considerable amount of pleuritic, pericardial and peritoneal exudate, the latter often being bloody, with ecchymoses on the heart and aorta. There was rapid decomposition of the carcase and especially the liver. Enterotoxaemia was excluded by consistently negative results in tests for the presence of *Cl. welchii* toxin carried out by the injection of intestinal filtrates into mice and the examination of primary intestinal cultures.

In 1946 particular attention was given to the possibility of black disease. Examinations within two hours of death revealed cirrhosis of the liver and necrotic foci. Cirrhosis was consistently observed in fresh *post-mortem* specimens and the macroscopic appearance of the liver was the same as described by Jamieson, although no leucocytic barrier was observed around the necrotic areas.

The association of Fascioliasis with the disease was considered. There was no clinical history of fluke infestation in the flock, but the examination of many livers both from casualties and normal sheep from the flock killed at the abattoir revealed the presence of flukes though not in large numbers. Nevertheless there are a few areas of marsh on the farm of a type ideally suited to the snail *L. truncatulata*, and it may well be that fluke plays an essential part in the aetiology of the disease even when present in small numbers.

When losses recommenced in September, 1947, cultures were made from two fresh livers. The resulting growths, though not pure, contained organisms which were morphologically indistinguishable from *Cl. oedematiens*. Furthermore, guinea-pigs inoculated with the mixed cultures died with 24 hours showing a characteristic lesion. *Cl. oedematiens* was present in mixed cultures from the guinea-pigs. Sub-cultures of the original liver cultures were examined at the Wellcome Physiological Research Laboratories, Beckenham, and their report confirmed the presence of *Cl. oedematiens*.

Prevention

A supply of anti-*Clostridium oedematiens* serum was obtained for trial purposes from the Wellcome Physiological Research Laboratories. It contained 7,500 international units per c.c. and the dose suggested for the prevention of black disease was 2 c.c. On September 26th, when 26 of the 90 ewes in the flock had died, 41 were injected with serum, leaving 33 uninoculated as controls. During the succeeding two weeks there were no deaths among the inoculated, despite the fact that one of these showed suspicious symptoms at the time of inoculation, but six of the controls died. As this loss to the farmer was considerable the remainder were given serum and no further losses occurred.

Discussion

There can be little doubt that black disease was responsible for the outbreak described, for the lesions were consistent with those of this disease and *Cl. oedematiens* was isolated from affected sheep. Furthermore, oedematiens serum had a significant prophylactic effect.

There are points of interest concerning differential diagnosis which arise from the experiences gained in dealing with the outbreak. Acute Fascioliasis occurs at the same time of the year, and as in black disease, rapid decomposition of the liver is a constant feature. It can, however, be distinguished by the liver haemorrhage, the haemorrhagic tracts and the absence of the necrotic areas which characterise black disease. Enterotoxaemia is the other disease most likely to be confused with it, but in this condition the animals are very distressed from the onset and toxin can be demonstrated in the intestines on autopsy.

In these cases of black disease in Shropshire ewes frequently only became ill in the later part of the day, whereas Dodd (1918) recorded that in Australia there is a tendency for casualties to be found first thing in the morning. The observation that black disease is commonest in ewes older than 18 months and rarely occurs in wethers may be a point of practical importance in its diagnosis.

Acknowledgment.—I am indebted to Mr. Alex. Thomson, of the Wellcome Physiological Research Laboratories, for his advice and co-operation and for the supply of *Clostridium oedematiens* serum.

Summary

An outbreak of black disease in sheep on a Shropshire farm and its effective control by the use of *Cl. oedematiens* serum is reported.

References

JAMIESON, S., THOMPSON, J. J., & BROTHERSTONE, J. G. (1948.) *Vet. Rec.* **60.** 11.

BYTHELL, D. W. P., & PARKER, W. H. (1946.) *Ibid.* **58.** 367.

DODD, SYDNEY. (1918.) *J. comp. path.* **31.** 1.

N.F.U. CENSUS OF HEAVY HORSES

"Alarmed at the continuing decline in the numbers of heavy horses available for farm work, the N.F.U. are making a census," says the *Farmer and Stock-Breeder*. "The few horses that remain on holdings are being worked for long hours, and the number of broken youngsters coming along is generally thought to be insufficient even for replacements. If the state of affairs revealed by the census warrants action, the N.F.U. may ask the Ministry of Agriculture either to seek to reduce exports of heavy horses or to offer an inducement for breeding."

Trypanosoma congolense Infection in Cattle in the Sudan: Treatment with Dimidium Bromide [Phenanthridinium 1553]

By

J. T. R. EVANS

Sudan Veterinary Service

Incidence

The tsetse belt in the Southern Sudan is for the most part fairly well defined and neighbouring cattle owners have generally kept their animals well away from it. A small proportion of their herds, however, have always become infected with *T. congolense* and these cattle, together with infected wandering game, moving into tsetse-free country, have spread trypanosomiasis.

The disease has been found in most of the cattle-rearing areas of the south since the early years of the century but until recently little notice was taken of it because very few cattle were infected and the losses from it were insignificant. During the last few years, however, the incidence of the infection increased enormously and in the 1946-47 dry season it was conservatively estimated that over 10,000 cattle a month died. Most of the herds reared in that vast area of over 100,000 square miles extending along the valley of the White Nile and its tributaries between parallels 6° N. and 13° N. became heavily infected and losses of up to 50 per cent. were common.

This part of the country is unsuitable for tsetse flies and they have never been found there. It is a hot clayey plain, dry during one season and liable to extensive flooding during another, and its middle is well over a 100 miles from the nearest known tsetse belt. Biting flies, particularly those belonging to the family Tabanidae and to the genera *Stomoxys* and *Lyperosia* are, however, abundant during most of the year, and the close herding of the cattle facilitates mechanical transmission.

The recent extensive spread of trypanosomiasis appears to have been due partly to an appreciable increase in the number of these biting flies as a result of a succession of abnormal floods and partly to greater movement of cattle which has taken place following the exercise of closer administration over the primitive cattle owners and widespread immunisation against cattle plague and contagious bovine pleuro-pneumonia.

Experimental Treatment

Experiment No. 1

The first chemotherapeutic trial of dimidium bromide (phenanthridinium 1553) was carried out at Khartoum Laboratory late in 1945 using a sample of the drug kindly supplied by the Department of Scientific and Industrial Research, Teddington.

Five adult short-horn zebu cattle, previously artificially infected with a virulent strain of *T. congolense*, were injected subcutaneously behind the shoulder with a one per cent. solution of dimidium bromide, two at 1·0 mg. per kg. and three at 2·0 mg. per kg., body weight.

All the bulls developed hard, very painful swellings about eight inches in diameter at the inoculation sites, and one of them (treated at 1·0 mg. per kg.) died on the 35th day after treatment. The swellings in the others took about six weeks to disappear and during the early part of that period the cattle were too lame to walk any distance. Blood examinations two or three times weekly over a period of 15 weeks did not show any trypanosomes and it was assumed that the five bulls were cured.

Experiment No. 2

A second experiment was carried out at the branch laboratory at Malakal in the Southern Sudan, using cattle (Sanga type) naturally infected with *T. congolense*. Small-animal sub-inoculation was impracticable and the criterion for judging cures was failure to find trypanosomes on twice weekly blood examinations over a period of ten weeks.

The following were the results:—

1. *Dosage of one mg. per kg. body weight in one per cent. solution*

(a) Subcutaneous route.

Sixteen infected bulls were treated and 15 of them appeared to be cured. One bull relapsed after ten days and after a second injection at the same dosage it relapsed again on the 15th day. A subsequent course of stibophen appeared to cure it.

All the cattle showed hard swellings at the seat of inoculation. In about half of the cases they were small, caused little or no inconvenience, and disappeared in about a fortnight. In the others the swellings were bigger, some of them up to 12 inches in diameter, and persisted for a month or more.

(b) Intramuscular route.

Five cattle were injected in the muscles of the thigh and all appeared to be cured. Small swellings about two inches in diameter resulted, but the bulls were not inconvenienced by them.

2. *Dosage of two mg. per kg. body weight in one per cent. solution*

(a) Subcutaneous route.

Nineteen bulls were treated and all but one appeared to be cured. This bull relapsed eight weeks after injection, trypanosomes being seen on one occasion only. Bigger swellings than those following the dosage of one mg. per kg. appeared at the injection sites and they persisted for about two months.

(b) Intramuscular route.

Four bulls were treated and all appeared to be cured. The reaction to the injection was similar to that following half the dosage.

Table I

Summary of the Results of Experiments Nos. 1 and 2

Bulls treated	Mg. per kilo.	Conc.	Route	Cured	Relapsed	Died
18	1·0	1%	S/c	16	1	1
22	2·0	1%	S/c	21	1	0
5	1·0	1%	I/m	5	0	0
4	2·0	1%	I/m	4	0	0

There was marked loss of condition in all the cattle injected subcutaneously but there was no appreciable change in that of those injected intramuscularly.

Experiment No. 3

Further investigation of subcutaneous administration of the drug was abandoned because of the severe local reactions which developed and it was decided to repeat the intramuscular experiments, using a bigger number of cattle, and also to try the intravenous route.

Naturally infected cattle were used and criterion of cure was taken to be failure to find trypanosomes on blood examination on alternate days over a period of ten weeks.

The following table shows the results obtained.

Table II

Number of cattle injected	Dose per kilo.	Conc.	Route	Blood examination. Alternate days for 10 weeks
16	2 mg.	2%	I/m	All negative.
20	1 mg.	2%	I/m	Nineteen negative. One relapsed 30th day.
9	2 mg.	2%	I/v	All negative.
10	1 mg.	2%	I/v	All negative.
9	2 mg.	1%	I/v	All negative.
10	1 mg.	1%	I/v	All negative.

One bull which received two mg. per kg. intramuscularly, showed signs of photosensitisation seven weeks after treatment. It made a slow recovery.

Field Trial

The results of the third experiment were considered to be satisfactory enough to justify a field trial of the drug. A heavily infected area, in which blood examination of representative groups of cattle showed *T. congolense* in about 30 per cent. of cases, was selected in the Southern Sudan, and all the cattle (both clinically affected and apparently healthy ones) comprising over a 1,000 in number, were injected intramuscularly in April, 1947, with a two per cent. solution of dimidium bromide at an approximate dosage of one mg. per kilo.

The rainy season began shortly afterwards and nothing better than a general inspection of the herds was practicable for the following five months. The vast majority of the clinically infected cattle showed marked improvement in condition and there was not a single report of any sick beast having died nor of any having developed symptoms of photosensitisation. The healthy state of the treated herds was in spectacular contrast to that of neighbouring ones where trypanosomiasis continued to take its toll. All this was accepted as adequate evidence that the treatment had been successful.

Large Scale Treatment

The success of the field trial made it imperative that large scale treatment of trypanosomiasis should be embarked upon with the least possible delay because by this time losses from the disease were causing grave political concern.

Despite the very severe local reaction which usually developed after subcutaneous injection of dimidium bromide in the early experiments a further trial of this simpler method now seemed advisable because it was the route employed satisfactorily in other parts of Africa. Some 500 cattle were therefore injected in this way and although swellings developed at the injection sites in most of them, these were never more than about six inches in diameter and one inch in depth, and they caused little or no inconvenience.* They started to subside on the third or fourth day and gradually became hardened; the hair later fell out and the skin became necrosed; healing took place slowly and a conspicuous scar remained. (See Fig. 1.)

Fig. 1.†

Showing a conspicuous scar at the inoculation site and necrosis of the skin, particularly of the muzzle. Six to seven weeks after injection.

The cattle owners did not object to this local reaction and so it was decided to inject the drug subcutaneously, the site chosen being well behind the shoulder so that the ensuing swelling would not interfere with the movement of the foreleg. Freshly prepared solution was used and the dosage calculated at approximately one mg. per kg. body weight.

The campaign was started at the southern end of the infected plain in September, 1947, and the plan was to inject *all* cattle in order not to miss out any sub-clinical cases. It was hoped that in this way the incidence of trypanosomiasis would be reduced to a point where transmission by flies other than tsetse would not be serious.

About six weeks after the start of the campaign and when about 40,000 cattle had been injected, operations had to be suspended suddenly because alarming symptoms of photosensitisation began to appear amongst the first cattle treated. The most severe symptoms developed in cattle that were in good condition at the time of treatment. Those that were thin and were clinical cases of trypanosomiasis rarely became affected and, in contrast to the others, they usually improved very rapidly in condition. The first signs noticed were a gradual loss in condition, photophobia and a lowered milk yield. These were followed by inco-ordinated movement and exhaustion. About a fortnight after the onset of symptoms the most severely affected ones became emaciated and showed extensive necrosis of the skin, particularly of the muzzle (See Figs. 1 and 2). The teats frequently became involved and during the healing process the teat canals became occluded. Jaundice was a common feature and there were rare cases of haemoglobinuria.

*The dimidium bromide now being used was not from the sample used in the early experiments and was supplied by May & Baker, Ltd.

†Photographs by Mr. J. K. Thomson.

Fig. 2.†

Showing extensive necrosis of the skin. Six to seven weeks after injection.

All the affected cattle were in a dry area where grazing was scarce and poor in quality. It was thought that this shortage of food and water might have predisposed to photosensitisation as was experienced by Stewart (1947) in the Gold Coast and immediately steps were therefore taken to move all the cattle to the Nile where there was plenty of green grass. Very few cases of photosensitisation appeared after this change and most of the previously affected ones recovered rapidly. The final mortality was surprisingly low, being less than one per cent. of the total treated, and a great relief to all concerned.

The campaign was then resumed, taking precautions that river grazing was available for some months following treatment. Occasional cases of photosensitisation continued to appear but they were so few that little notice was taken of them.. With the advent of the rainy season in April, 1948, the campaign had to be stopped and by that time all the cattle in an area of about 20,000 square miles and numbering over 350,000 head had been injected with the drug.

The campaign had the satisfactory result of reducing losses from the disease from alarming proportions to a negligible number. Some of the treated cattle continued to show trypanosomes in the blood. Most of these cases were probably relapses but it was significant that even amongst those treated several months earlier extremely few of them showed clinical symptoms of typanosomiasis.

Discussion

Although Brownlee, Goodwin and Walls (1947) have stated categorically that there could be no variation in the constitution of dimidium bromide, the marked difference in the severity of the local reactions following subcutaneous injection in cattle of the same type and kept under similar conditions, as Fiennes (1947) and others found, indicated that earlier samples of the drug were not identical with later supplies.

The criteria applied in assessing the results of the experimental work were admittedly not as severe as they should be, and some relapses may have been missed. Even stronger criticism may be applied to the report on the field trial* where blood examination was impracticable owing to climatic conditions. However, the final objective was to stop the heavy and widespread mortality from trypanosomiasis; clinical recovery of infected animals together with the absence of casualties following injection of the drug, were accepted as sufficient justification for embarking on large scale treatment.

The relapse cases following mass treatment were probably recent infections at the time of injection and it is likely that the trypanosomes have developed resistance to dimidium bromide (Randall & Laws, 1947). Fortunately, however, as was anticipated at the beginning of the campaign, a new trypanocidal drug has become available and, if the necessity arises, the cattle will be re-treated with this.

Summary

The incidence of *T. congolense* infection in cattle in the Sudan and experimental work leading up to mass treatment with dimidium bromide are described. Over 350,000 cattle in one area were treated and the mortality from trypanosomiasis reduced from alarming proportions to negligible numbers. Relapses were encountered but, even amongst those treated several months pre-

viously, very few of them showed clinical symptoms of the infection.

Acknowledgment.—I acknowledge much valuable advice given by Dr. J. Carmichael of May & Baker, Ltd. and my indebtedness to the following members of the Sudan Veterinary Service:—Asst. Veterinary Research Officers El Amin Abdalla and Mohamed Ali Mihemied who carried out most of the blood examinations and Veterinary Inspectors J. K. Thomson and D. G. Clow who were in charge of the campaign and provided progress reports of it.

REFERENCES

BROWNLEE, G., GOODWIN, L. G., & WALLS, L. P. (1947.) *Vet. Rec.* **59**. 518.
FIENNES, R. N. T. W. (1947.) *Ibid.* **59**. 331.
RANDALL, J. B., & LAWS, S. G. (1947.) *Ibid.* **59**. 330.
STEWART, J. L. (1947.) *Ibid.* **59**. 462.

Meat Other than those Kinds Normally Sold by Butchers

By

H. E. BYWATER

The public's preference for certain kinds of meat is largely a matter of fashion or prejudice. In this country the bulk of the meat supplies are restricted to the flesh obtained from cattle, sheep and pigs and, to a lesser extent, from poultry and rabbits. A limited amount of goat and horse flesh is also consumed.

Although horse flesh has always been consumed in fairly large quantities abroad, it has never found favour with the British public, except during periods when the more normal channels of supply are curtailed. The practice of killing horses for human consumption, introduced in this country during the 1914-18 war, was revived during the recent war and still continues to-day. Having regard to the comparative freedom of the horse, in these islands, from disease likely to affect the quality of the meat, one cannot but admit that the more extensive use of such meat for the human diet is prevented by prejudice rather than by scientific considerations.

It may well be that certain religious beliefs have had an influence in tending to prevent the more common use of this meat, since it would appear that the Christian Church has never encouraged the consumption of horse flesh. Indeed, early in the eighth century Pope Gregory III showed his disapproval of the use of the flesh of wild and tame horses and proclaimed it "unclean and an abomination." The Church's objection to horse flesh was probably twofold, being based upon its use in certain heathen feasts and to the fact that it was thought that leprosy and other diseases could be acquired from the horse. Undoubtedly, in former times, there was good reason to object to the use of horse flesh owing to the risk of glanders. Fortunately this disease is now no longer present in the British Isles.

To illustrate the different tastes of various peoples, it may be pointed out that the liver of the mule is regarded as a delicacy by certain gourmets; that the flesh of the dog is apparently favoured in certain parts of Germany (dogs were, at one time, regularly killed in the Berlin abattoir), whilst the Chow-chow dog is bred in China to provide meat, and that "kippered" rats are highly prized among certain Chinese coolies.

Ancient peoples were no less prone to prejudice and fashions with regard to foods. The Phoenicians apparently ate dogs but disdained to eat the meat of cows or pigs. The Greeks also ate dogs but not lambs. The Romans would not eat beef, goat flesh or hares, although rabbits and pork were much favoured. The ox being a beast of burden, its flesh was probably considered undesirable in much the same way as horse flesh is regarded to-day in Great Britain. Sucking pigs were considered a delicacy and in the latter years of the Roman empire a morbid liking for unborn pigs and the breeding organs of sows developed to a marked degree. Horse flesh appears to have been consumed fairly generally in ancient times.

The objection of the Jews to pork was probably based on sound public health grounds—mainly on account of such parasites as trichinae and the armed tape worm (*taenia solium*) which are transmitted to man through the flesh of infected pigs.

Meat other than beef, pork and mutton.—In Great Britain, with the exception of horse flesh, there are no specific provisions with regard to the sale of meat from other animals provided the meat complies with the provisions of the Food and Drugs Act, 1938, in that it is healthy, sound, wholesome and fit for human food and has not been subjected to any prohibited processes and is of the nature, substance and quality demanded by the purchaser.

Goats' flesh, whale meat, etc., can, therefore, be sold by the butcher provided he sells it as such and does not attempt to substitute it for other meat without the knowledge and consent of the purchaser.

Horse flesh, mule and donkey meat.—Horse flesh, like all other meat killed for human consumption, must be killed and dressed in a licensed slaughterhouse.

The popular conception that a slaughterhouse deals with ordinary butchers' meat whilst a knacker's yard deals, in addition to diseased cattle, sheep and pigs, with horses, mules and donkeys, diseased or healthy, is not correct if those horses, etc., are intended for human food.

As a rule, horses, etc., slaughtered for human consumption are dealt with in special licensed slaughterhouses or in part of a licensed slaughterhouse especially set apart for the purpose; apart from any local by-laws to that effect, however, there are no general legal provisions in this respect.

The law lays it down that persons licensed to slaughter horses are not permitted to be horse dealers. Thus, the Protection of Animals Act, 1911, Section 6 (1), reads: "It shall not be lawful for any person who shall be licensed to slaughter horses, during the time while such licence shall be in force, to carry on the trade or business of a dealer in horses."

The sale of horse flesh for human food is governed by the Food and Drugs Act, 1938, Section 38:—

"(1) No person shall sell, or offer or expose for sale, or have in his possession for the purpose of sale, any horseflesh for human consumption elsewhere than in a shop, stall, or place over or on which a notice in legible letters stating that horseflesh is sold there is displayed in a conspicuous position so as to be visible whenever horseflesh is being sold, or offered or exposed for sale."

"(2) No person shall supply horseflesh for human consumption to a purchaser who has not asked to be supplied with horseflesh, or who has asked to be supplied with some compound article of food not ordinarily made of horseflesh."

ABSTRACT

[**Lead Arsenate and Ruminant Tapeworms.** FOSTER, A. O., & HABERMAN, R. T. (1948.) *J. Amer. med. Ass.* **113**. 51-54.]

Experimental evidence indicates that heavy infestations with *Moniezia expansa*, and *M. benedeni*, may cause clinical symptoms in young sheep and cattle. The symptoms are described as a rapidly progressive emaciation, with diarrhoea, and usually occurring in lambs which had previously suffered from a nematode infestation, or had been badly mothered. The authors qualify this statement with the observation that a heavy tapeworm infestation does not always induce a clinical reaction. They suggest that some adverse conditions of early life may be a causal antecedent of clinical tapeworm infection.

As an answer to this problem the taenicidal powers of lead arsenate are reviewed. Approximately 4,000 ruminants received lead arsenate, at the dosage rate of 0·5 to 1 gramme for lambs and kids to 1 to 2 grammes for calves and cattle. No details as to the method of administration are given, although mention is made of one trial when the preparation was given in a gelatine capsule. Much of the evidence as to the taenicidal properties of lead arsenate is clinical, in which the passage of numbers of tapeworms was followed by recovery. In a trial with eight lambs, dosed with 1 gramme of the drug, six animals showed a 100 per cent. eradication with the remaining two having 80 per cent. and 16 per cent. reduction, as indicated by faecal examination.

No toxic reactions in lambs or kids are reported, although mention is made of a transient intoxication in calves manifested by colic. Lead arsenate is, however, toxic to poultry.

D. W. J.

STANDARD SIZES FOR X-RAY FILMS

The British Standards Institution has recently issued B.S.1443, which specifies the size of X-ray film and intensifying screens, together with internal sizes of cassettes, adopted for future use. The Standard was prepared at the request of the manufacturers of X-ray equipment and accessories, who have had to meet the needs not only of medical and industrial users in this country but were also faced with the necessity of producing equipment adapted for metric sizes for the export trade. The committee charged with this work has found it possible to provide satisfactorily for all uses with a range of ten inch-sizes and six metric-sizes, and these 16 sizes will replace more than 30 formerly in use in this country. The Standard specifies minimum and maximum cutting sizes for X-ray film and intensifying screens, and also provides for a standard minimum size of cassettes. Films and screens of these sizes will be usable in all existing equipment.

The Late Colonel George Henry Evans

The Burma Veterinary Department in Retrospect

[Contributed]

I never met Fatty Evans. But I seem to know more about him than most people I have met. That was because from time to time I met people in various walks of life who had known him. All who had had anything to do with Burma during his long association with that country not only just knew him, but knew him well, and knew him by no other name than Fatty Evans. And on all these various people, their reaction on mere mention of the man's name was the same—a smile indicative of the evocation of happy memories. "Of course," said an old retired Colonel, "everybody in Burma knew Fatty Evans: he was a Vet.!" He must have been—whatever his merits as a veterinarian or as a scientist—in the best sense of the words, a great social and political asset to the country and upholder of British prestige. As your contributor has said, his passing marks almost the closing of an interesting chapter in the history of our profession. I have said "almost," because I am happy to note, on consulting our Register, that "Alf" Smith, as he was again universally and affectionately known and whose associations were with Bengal, is still alive, though he must have been somewhat junior to Fatty Evans for he qualified in 1890. Besides what has been so accurately said in your contributor's memoir, readers would do well to consult the R.C.V.S. Centenary Number of *The Veterinary Record* (December, 1944) for information upon that chapter in the history of our profession and what it did in promoting in its own way, the cause of the British Empire—while that flourished.

In the year 1922, I had the good fortune to meet two of Evans's colleagues, Rennie and Cameron, at an official meeting of Veterinary Officers in Calcutta. Evans had then just retired, while both Rennie and Cameron were shortly contemplating retirement before the expiry of their normal term of service. A fine trio of men they must have been to guide the destinies of a rising veterinary profession in a country of, on the whole, good natured though not very industrious indigenous people. But there was one grave defect, so it was insisted upon by a few of the veterinary officers who had spent their careers on the mainland of India, in the whole trend of the policy adopted by the Burma officers. That grave defect was that it would result, on their own impending retirement, in the leaving of the veterinary services in Burma absolutely derelict, for they had created no organisation to perpetuate their own work. And so it seemed, in fact, to turn out for many years after they had actually retired. The causes have been mentioned briefly by your contributor. Whereas on the mainland of India, Evans's contemporaries, seconded from the Army (Pease, Walker, Smith, in particular) continuing the admirable policy laid down originally by Hallen, had promoted development of the four veterinary colleges at Calcutta, Lahore, Bombay and Madras, which were run somewhat on the British system, to turn out a regular supply of Indian graduates, no such policy was adopted in Burma, restricted as that country was to the small school at Insein. Again, in each Province in India, a network of hospitals and dispensaries was set up, often financed rather precariously from District Board funds, but nevertheless representing an administrative commitment, providing some measure of permanency and stability to the veterinary department and capable of expansion in times of emergency. Evans and his colleagues, however, instead of concerning themselves about setting up a stable framework for their department, had enjoyed themselves, so it was alleged, fishing the rivers of Burma.

On the face of it, that seeming delinquency on the part of the British veterinary pioneers in Burma would set them in a bad light on comparison with their colleagues in India. A more detached reflection, such as is possible at this stage, however, makes one wonder whether, after all, it could have been that Evans possessed greater psychological insight, and intellectually and ethically a higher sense of values than not a few of his colleagues in India.

In the whole course of human history, nothing tends to become more corrupt than a solid hierarchy whose "priests" in the usual way of ordinary human nature, become actuated by motives of corporate and individual self-preservation and self-aggrandisement, thus casting away, as they inevitably then do in time, from their own conduct the lofty ideals of the reformer-"prophet" who sacrificed himself for those ideals but who, in effect, founded instead a new hierarchy. But very recently in a published review, the present Dean of St. Paul's, with all his great learning, declared that there has been no "thinker" appointed as Archbishop of Canterbury since Cranmer at the time of the Reformation, and, of course, every schoolboy knows the fate of Cranmer.

Some real achievements stand to the credit of a few veterinarians who have cast their careers in whole, or part, in India. On the whole, however, what one saw there only too often, was the inexorable operation of hierarchical interests, culminating dolefully in the historical situation as we now perceive it.

More than in almost any territory—because the life of the humble cultivator who constitutes the greater mass of the population is bound up with that of his livestock—the field for veterinary endeavour, in the widest possible sense, in India and Burma, is immense. As in England, though that tends now to be completely forgotten (again in the ordinary way of human nature) it was a great emergency that forced upon ruling authority (or the public expressing itself through rising organised societies in the case of England) the need for a cadre of trained veterinarians for the public service. That great emergency was cattle plague.* In times of war another grave emergency was represented by glanders. It was that emergency of cattle plague remaining somehow in abeyance during the closing years of the 18th century and the earlier part of the 19th century in England that caused neglect of veterinary education by authority and its falling into corrupt and incompetent hands, a disaster from which we still suffer.

In India and Burma, on the other hand, that grave emergency lingers and prevails—intermittent, to be sure, in its periods of exacerbation—but still always persistent enough to impress upon authority the need for a cadre of public servants versed, as authority tends to lull itself into believing, in the matter of combating periodic calamity arising from that terrible disease. The measures which were eventually employed to "stamp out" the disease in this country certainly could not be employed in India and Burma, for want of a strong enough sanitary police system to enforce quarantine. And so recourse was had, following experience gained in the South African disaster, from 1897 onwards, to inoculation. As inoculation with blood conflicted with Hindu religious beliefs—and, in any case, not enough was then known about the risks and how to avoid them—the "serum-simultaneous," or "double" method, which would have given, as in Egypt, durable protection was not employed, except rarely, and the inoculation was confined to serum alone, in the preparation of which the Government of India establishment at Muktesar had a monopoly of manufacture and sale to the Provinces and expanded correspondingly. A few other prophylactics were also prepared for despatch from Muktesar and further issue, either from the Provincial district unit headquarters represented in India by the hospitals and dispensaries, of which there were none created in Burma, or direct from the Provincial headquarters. And, besides, a good show of clinical work, more particularly castrations, at these hospitals and dispensaries was available for publication in the annual reports to be presented to local Governments. A "service" meanwhile developed, in which, in the ordinary way of a civil service, the main qualifications of those promoted to the higher ranks should be that they were good "administrators," their liturgy being almost confined to that of the civil service, namely the "fundamental rules" and "civil account code," so that so long as the "canons" of that liturgy were satisfied all was well. Knowledge of tropical pathology among these "veterinary priests" on the whole was, like all "little knowledge," dangerous, for it was in itself sufficient to classify them apart in the eyes of officialdom as a separate service, but, in relation to the vocational environmental problems crying aloud for solution, it was utterly inadequate, unenlightened, and uninspired. Their time was taken up "inspecting" dispensaries, that is, checking instruments, leave and allowances of subordinate personnel, etc., and in writing minutes, vituperative or patronising, on files on return to headquarters. Intrigue became dismally rampant, so much so that in one province, not one of the three "priests" (all of whom are now dead) dare take leave for longer than three months for fear, as he would say, the others would oust him from his "job" before his return. "Ousting" was developed into a consummate art, and all the wiles of the Orient were around to gain the requisite proficiency through imitation or propitiation. One dared not, at pains of losing "job" or even reputation, turn one's back. What mattered only was one's social prestige: I remember well taking on tour perhaps our most distinguished scientist and finding after arrival at a certain headquarters town that the reception provided was lukewarm and at a second-class club; afterwards, I learned that careful enquiry had been made as to whether he could really be safely entertained at the first-class club. Yet that man had achieved more to the lasting benefit of the great terri-

* It is time to drop from our vocabulary the neologism "rinderpest," which obtained currency towards the end of the 19th century when the British felt a sense of inferiority towards everything that was German, including, with good reason at that time, German scientists.

tory he had served than the whole pack of mediocrities whose only assets too often were, as the late Sir John McFadyean once declared, "clothes and parlour manners" in that "middle-class Englishman's paradise," which was what India had become during that period of decline of British prestige abroad.

It was Dr. Johnson, in contesting the alleged advantages of travel, who asserted that there was more enlightenment within ten miles of Charing Cross than in all the rest of the world put together. That was immediately apparent when one set foot in India, for although fine teaching was then being undertaken in London on the etiology of the diseases raging among livestock in our tropical possessions, the veterinary priests who had established themselves there, for a large part, did not even know the use of a microscope and little realised that every beast in India if they had troubled to use that tool could be found to be a carrier of two and often three potentially highly pathogenic protozoan parasites, not to mention several other infections with which the British veterinarian in his ordinary way of practice could hardly be expected to be familiar.

But to return to cattle plague, which was the chief *raison d'être* of their service—"serum," that is "serum alone inoculation"—had become so much an accepted and established practice that to cast doubt on its efficacy amounted almost to rank heresy. And that was the view confirmed by the findings of a "retrenchment committee" dominated by some Calcutta "box-wallahs" in 1923, that Muktesar, contrary to the intentions at its foundation, must be placed on the footing of a self-supporting serum-making factory. It was vain to argue that in the light of proper enquiry into the duration of serum protection, the whole concept of its use in the field, despite the so-called statistics paraded in annual reports, was a chimera, and that research on modern lines might well lead to the discovery of a prophylactic that was honestly efficacious and, moreover, suited to the peculiar economy of India. That research had perforce to be undertaken—as with all other progress, of which the paramount one must be regarded, in all equity, as the training of the Indians themselves in the ways to progress—almost on sufferance.

In Burma, as events shaped themselves, with the recruitment of entirely fresh workers later with South African experience—Mitchell and, especially, Pfaff—wonderful progress was quickly made in exploiting the discoveries made at Muktesar during the above heart-breaking years. Pfaff's work there, in discovering what is now called the "Interference Phenomenon" and on methods of despatch of enormous quantities of goat attenuated virus to the field after desiccation, ranks, together with that of another highly enlightened worker, Cornell (now unfortunately dead) in Siam, as among the best work on record on cattle plague prophylaxis.

As in the early great days of the Indian Civil Service, Evans's policy, it appears, was to establish direct intimate relations with the people themselves. Often the finest men in that service in the days of its greatness were thought by the babu-minded officials at Government headquarters to be wasting their days with "shikar," whereas in reality they were making profound studies of the minds of the people all the time, and it was in the districts over which such men as these held charge that there was most tranquillity and least famine. So with Evans, his intimate knowledge of the virile, though "primitive," tribes in the interior of the country—and no more effective way to win the hearts of "primitive" people can be found than to show personal solicitude for their animal possessions—was a great political boon such as only a man with his catholic and genial outlook on life could render. Wingate's exploits with the Chindits are still fresh in public memory.

Whether or not in the end it is better to remain a good evangelist than to aspire and succeed to a bishopric or even an archbishopric is, as that fount of good common sense, Sam Weller Senior, once declared in connection with another juxtaposition, after all, "a question of taste."

COLONIAL DEVELOPMENT AND WELFARE SCHEMES

Two million pounds was allocated to colonial research during the year 1947-48, compared with £1,100 000 for the preceding year.

Accounts of the researches involved—embracing medicine, social science, agriculture, animal health, forestry, fisheries, geology, insecticides, economics, colonial products and many other fields—are contained in the report on Colonial Research (Cmd. 7493) published by H.M. Stationery Office, price 2s.

More than 60 new schemes were approved for grants under the Colonial Development and Welfare Acts, and nearly 90 supplementary schemes. Some of the last named were of considerable importance, as they represented major schemes evolved from a preliminary or pilot scheme.

Nearly £800,000 has been spent on such researches since 1940: more than half of which was spent during the year under review.

Proposals for the creation of a Colonial Research Service, the report states, are approaching finality.

REVIEW

[**The Bloodstock Breeders' Review.** (1946.) **35**. 464: London: The British Bloodstock Agency, Ltd. £2 5s.]

This review presents a massive collection of information in such an attractive manner that one delves into its pages with delight.

The book is an essential for thoroughbred breeders, but so many aspects of racing and breeding are covered that there is interest for everybody. The 1946 Review is equal in excellence to its predecessors. Its late appearance is regretted, but the publishers are to be congratulated on their determination to produce a volume which shall merit its place in the series and if they are able to produce their 1947 Review during this year, as they hope, they will indeed be performing a great service for the bloodstock industry. While the death of Mr. E. E. Coussell, one of the chief contributors to, as well as editor of the Review, will make their task extremely difficult, the names of the continuing publishers, G. McElligott, M.R.C.V.S., Lord Manton and Brigadier Scott, C.I.E., are a sufficient and certain guarantee that the work will be carried on with efficiency and enthusiasm.

The statistical tables are so clearly produced by both the tabulators and the printers and the articles on the year's racing and breeding cover their subjects so comprehensively that the book may be classed as light literature as well as being a valuable work of reference. The general statistics, which have a very useful separate index, deal with the sires and dams of winners on the flat and jumping, at home and abroad as well as with their breeders. The international character of the bloodstock industry is stressed by authoritative articles on stud and turf from many countries and from every continent, while general articles cover racing at home and in Ireland, the French invasion, biographies of personalities and of horses—some commemorative—the careers of leading horses and many aspects of stud work. The increasing tendency to syndicate stallions is discussed and one commends the wisdom of including at least one veterinary surgeon on the various committees of management. An article on the control of parasites in foals and yearlings with phenothiazine by Mr. B. Korser is followed by a significantly cautious footnote by Dr. Dimock.

Of particular veterinary interest are the tables of stallions' fertility. It is pleasing to observe that, while horse breeding in general is on the decline in this country, there were 3,506 live thoroughbred foals born in 1946, which compares well with the average of 3,474 born in the 1930s. Reports are included of the bloodstock sales, of the Racecourse Betting Control Board, which allocated £11,500 to the Veterinary Educational Trust in 1946, and of the Thoroughbred Breeders' Association. This Association's members are also watching the work of the Animal Health Trust with keen interest and they were given an address on the progress of its work by Dr. Wooldridge. They also discussed Mr. Brayley Reynolds' proposals for courses of instruction for stud grooms, an idea which would have far-reaching effects on the health and well-being of our horses.

The advertisements of stallions at stud form an interesting supplement to the volume which is freely illustrated throughout and well merits its sub-title: An Illustrated Annual devoted to the British Thoroughbred.

R.C.V.S. Central "Library" for Animal Diseases

We are asked to announce that the Central Library for Animal Diseases, 10, Red Lion Square, London, W.C.1, will be closed from August 28th to September 6th. Arrangements have been made, however, for urgent requests to receive attention.

* * * * *

COLONEL COMMANDANT, R.A.V.C.

Brigadier C. A. Murray, C.B.E., has been appointed Colonel Commandant of the Royal Army Veterinary Corps in succession to Brigadier Mosley.

Welcoming the appointment, the Corps *Journal* does so "in the knowledge of his past achievements and his strong and cheerful personality. . . . We are fortunate to have Brigadier Murray to guide us in these difficult times." It was during his term of office as Director, and largely due to his efforts, that the amalgamation of the Veterinary and Remount Departments was so successfully achieved.

Weekly Wisdom

"*. . . The freeing of man from tutelage is the true making of man. But only ethical reflection can set him free.*

"*In this sense ethics is practical philosophy. It is not a shaping of human life regardless of man's intelligence, but is precisely his own advance towards his own free fashioning of life. . . .*"—Hartman's *Ethics*, Vol. 1, page 31. (1930. London: George Allen & Unwin, Ltd.)

NOTES AND NEWS

Diary of Events

Sept. 8th to 15th (inclusive).—N.V.M.A. Congress at Southport.

Sept. 11th.—13th Annual Meeting and Dinner of the Royal (Dick) Veterinary College, Alumnus Association at Southport (Prince of Wales Hotel), 7.30 p.m.

Sept. 14th.—Annual General Meeting of the Association of Veterinary Teachers and Research Workers, in the Council Chamber, Town Hall, Southport, 3 p.m.

Sept. 18th.—Annual meeting of the North of Scotland Division, N.V.M.A., at Bucksburn (Veterinary Laboratories, Mill of Craibstone), 2 p.m.

Sept. 23rd.—Special General Meeting of the South-Eastern Division, N.V.M.A., at Maidstone (Royal Star Hotel), 6 p.m.

Sept. 24th.—Meeting of the South Wales Division, N.V.M.A., at Carmarthen (St. Peter's Church Hall), 2 p.m.

Oct. 7th.—Meeting of the Central Veterinary Society at the Royal Veterinary College, 2 p.m.

Oct. 6th.—Meeting of the Editorial Committee, N.V.M.A., at 36, Gordon Square, W.C.1, 2.30 p.m.

* * * * *

Southport Congress, 1948.

The Provisional Committee have to announce with great regret that Sir John Boyd Orr now finds himself unable to attend the Association's Congress. His address on "World Food and Agriculture," as advertised in the Congress programme, therefore will not take place.

. . . . .

Mr. D. E. Leask, M.R.C.V.S., 179, Winslow Road, Withington, Manchester, 20, would like to hear from members wishing to enter the golf competition during the Congress. Entries for the ladies' golf competition should be notified to Mrs. K. G. R. Kelly, M.R.C.V.S., c/o Messrs. J. Bibby, Ltd., 55, Great Howard Street, Liverpool, 3.

. . . . .

At the unanimous request of the Provisional Committee Mr. A. C. Shuttleworth, M.V.SC., F.R.C.V.S., has consented at very short notice to read a paper on "Dental Diseases in the Horse" at 2.30 p.m. on Thursday, September 9th, in the Cambridge Hall. The chairman will be Professor J. G. Wright, M.V.SC., F.R.C.V.S., and the recording secretary, Mr. H. Pearson Blackie, M.R.C.V.S.

Members who have not yet done so are requested *as a matter of urgency* to send in their applications at once for tickets for the Congress functions, excursions, etc., in which they wish to participate.

PERSONAL

Mr. F. Blakemore's Appointment as Professor of Veterinary Medicine in the University of Bristol

As our readers are aware, the Committee on Veterinary Education, of which Dr. T. Loveday was chairman, recommended in 1943 that a new school of veterinary science should be established at the University of Bristol. With the concurrence of the Ministry of Agriculture and Fisheries and of the University Grants Committee the university has undertaken to carry out this recommendation.

The university has recently appointed, as its first Professor of Veterinary Medicine, Mr. F. Blakemore, who is at present superintending investigation officer for England and Wales. He will be concerned in the early development of the new veterinary teaching centre, where it is also proposed to take an active part in research, and Professor Blakemore is anxious to develop the centre in this direction as soon as possible. In addition to buildings on the university site there will be a department at Langford where they have an estate of approximately 100 acres and a house and buildings suitable for adaptation as teaching and laboratory rooms.

Professor Blakemore's Career

Frederick Blakemore, who was born in 1906, received his education at the Hyde County School and his veterinary training at the Liverpool School of Veterinary Science, whence he graduated M.R.C.V.S. on July 27th, 1927, obtaining the Diploma of Veterinary State Medicine of the University of Manchester two years later. After a period of three years in general practice as assistant to Mr. J. Wilson of Manchester, he served as Veterinary Officer for the County of Glamorgan for one year, when he was appointed as Veterinary Investigation Officer for the Eastern Provinces, securing in 1946 the post he now relinquishes. Professor Blakemore's tuitional experience includes the teaching of Animal Hygiene, as Lecturer in the University of Cambridge, while he has been Examiner in Pathology for the Royal College of Veterinary Surgeons since 1939, Examiner in the University of Cambridge, 1935-37, and in the University of Reading, 1941-43. He is a member of various committees of the Agricultural Research Council.

Professor Blakemore's veterinary researches have covered a wide field; they include work on neurolymphomatosis (fowl paralysis), swine influenza, bacterial infection of bovine lungs, jaagziekte, fluorosis, lactation tetany, hexachloroethane treatment of liver fluke, maternal transference of immunity in bovines and the classification of streptococci, and joint-ill of lambs. He was the first to identify fluorine poisoning of stock in this country and has traced its relation to industry. Recently he has been engaged in the study of factors influencing development of white scour, and the significance of vitamin A in bovine nutrition.

His colleagues in the profession will wish Professor Blakemore every success in his important new sphere of work; many of them will recall the qualities of initiative and good fellowship he displayed as Local Hon. Secretary of the Congress held by the N.V.M.A. at Yarmouth on the eve of the second World War.

. . . . .

Lieut.-Colonel John Hickman's A. H. T. Appointment.—Brigadier J. J. Plunkett, C.B.E., Director of the Army Veterinary and Remount Services, writes: "With reference to your announcement in *The Veterinary Record* dated August 14th, 1948, regarding the appointment of Experimental Surgeon to the Equine Research Station, Newmarket, may I point out that Lt.-Col. John Hickman who was given the appointment is not quite accurately described in your announcement.

"Lt.-Col. Hickman is a retired *regular* officer of the R.A.V.C. who served in the Corps since 1936 and was twice mentioned in despatches during the late war. He gained much of his experience during his military career and the R.A.V.C. is rightly proud of his appointment."

. . . . .

Degree.—At the recent congregation of the Senate of the University of Wales, at Bangor, the Degree of M.Sc. was conferred upon Mr. Harold Ivor Field, M.R.C.V.S., Veterinary Investigation Officer for South Wales at Cardiff. The subject of Mr. Field's thesis was "Salmonella infection in cattle."

. . . . .

Forthcoming Marriage.—Sumner—Jones.—The engagement is announced between Kenneth C. Sumner, M.R.C.V.S., of Langford, Bristol, and Olive M. Jones of Llandinam, Montgomeryshire.

. . . . .

Golden Wedding.—Mr. and Mrs. F. J. Thornton.—The *Dorset Daily Echo*, in its issue of August 18th, records the celebration by Mr. and Mrs. F. J. Thornton, of 16, South Street, Dorchester, of their golden wedding. Both are 75 years of age and Mr. Thornton, whose family lived near Southampton for a number of years, is well known professionally in Dorset, being in practice as a veterinary surgeon at Dorchester and Weymouth. Mr. Thornton qualified at London in 1894 and after his marriage in Bath to a lady of that city they took up residence in Dorchester, soon moving to their South Street home where they have remained ever since "watching the shops and offices spring up around them." While still an active man, Mr. Thornton is particularly glad nowadays to have the help of his son, Mr. Paul W. D. Thornton and of several assistants in his practices. We wish Mr. and Mrs. Thornton many years of continuing happiness and good health.

* * * * *

R.C.V.S. OBITUARY

Mackenzie, William L., 35, High Street, Annan, Dumfries. Graduated Glasgow, December 23rd, 1896. Died August 10th, 1948; aged 80 years.

Mr. W. L. Mackenzie, M.R.C.V.S.

Mr. William Mackenzie, whose death we record above with much regret, had been in practice in Annan for the past 53 years. He also acted as inspector of Annan Slaughterhouse. Mr. Mackenzie was a son of the late Rev. Dr. Mackenzie, Govan. Before going to Annan he practised as a veterinary surgeon in Market Drayton and Chester. "Highly skilled in his profession," says the *Dumfries Standard*, "he was respected by all who came into contact with him." Mr. Mackenzie was predeceased by his wife, and he is survived by a sister, who lives in Burton-on-Trent.

ANIMAL WELFARE WORK AND THE VETERINARY SURGEONS ACT

The following correspondence recently appeared in *The Times*:

Sir,—The public at large may not be fully aware of the important changes that have been brought about respecting animal welfare work in this country by the new Veterinary Surgeons Act.

Hitherto, trained technical officers of the People's Dispensary for Sick Animals of the Poor have lacked official standing in the veterinary world. This is no longer the case. Their work for the relief of animal suffering has been carried on under conditions of ambiguity and frequent misunderstanding. For such disadvantage there will no longer be excuse.

As a result of the present Act those technical officers who have been engaged in animal treatment for seven years go on a Supplementary Register as veterinary practitioners, while later-trained existing practitioners and future trainees of the P.D.S.A. will come under licence of the Minister of Agriculture and Fisheries, in numbers determined by the Minister in the light of progress made by the educational scheme. This plan safeguards the society's work and the development of it in the large field of animal welfare which the P.D.S.A. was founded 30 years ago to cover. With the continuance of generous public support, millions of animals that would otherwise, and did, escape professional jurisdiction for reasons well known to those who have studied the problem will be treated, as in the past, by skilled veterinary practitioners according to statutory conditions. There is yet vast need.

The great point is that a body of highly trained people, devoted to animal welfare, will no longer be open to ill-informed prejudice from any quarter, on the technical account of non-registration.

Yours sincerely,

House of Lords. AMWELL.

. . . . . .

Sir,—Lord Amwell's letter published on Tuesday, August 3rd, does not entirely make clear the purpose of the new Veterinary Surgeons Act, which is to ensure that in future all animals shall be treated only by qualified persons; that is, by those practitioners who have undergone the training and passed the necessary examinations prescribed for admittance to the Statutory Register of Veterinary Surgeons.

The Act also sets up a Supplementary Veterinary Register, the purpose of which is to safeguard during their lifetime those persons who are not veterinary surgeons but who at the coming into force of the Act have previously been engaged in treating animals and who satisfy the requirements of Section 6 as to experience and length of time of work. When all such persons have been registered, which will be approximately within the next three years, the register will be closed and will cease to exist on the death of the last surviving person thereon. Any existing technical officers of the People's Dispensary for Sick Animals who satisfy the requirements for the Supplementary Veterinary Register may be placed thereon.

Apart from this latter register in the future only qualified persons, *i.e.*, veterinary surgeons, may practise veterinary surgery. It is true that Section 7 of the Act allows the Minister, so long as certain specified types of animal welfare societies cannot obtain the services of an adequate number of veterinary surgeons, to license employees of such societies who are not veterinary surgeons; but this is a purely transitional arrangement and the licence will be only for strictly defined limited types of work (see Section 7). Such licensed employees will not be on any statutory register, and will not be allowed to practise except as servants of an animal welfare society serving sick animals of the poor. As the Minister stated in the House: "I want to make it clear—and this will anticipate questions, perhaps—that this is a purely temporary expedient. As the numbers of veterinary surgeons increase, automatically the number of licences granted will be reduced, until finally, of course, the time will come when no licences will be granted at all." As the preamble of the Act states, the purpose thereof is to restrict the practice of veterinary surgery by unqualified persons.

Yours faithfully,

National Veterinary Medical Association, 36, Gordon Square, W.C.1. L. GUY ANDERSON, President.

. . . . . .

PHARMACEUTICAL COMMENT ON THE ACT

In an editorial in its issue of August 21st, *The Pharmaceutical Journal* observes: "The recently passed Veterinary Surgeons Act opens up a new chapter in the history of veterinary surgery in Great Britain. The Act is the result of a long process which has produced a situation compounded of the shortcomings of earlier legislation, developments in ideas about professional education and the organisation of professions, advances in the science and practice of veterinary surgery, the increasing importance of animal husbandry and awakening public opinion to the need for government action to safeguard the interests of this branch of the national economy."

Having reviewed the terms of the Act the *Journal* proceeds, "Compared with the Dentists Act, the aspects of the Veterinary Surgeons Act which are of interest are the more extended powers of the Privy Council and the absolute limitation to specially qualified persons of practice by new entrants into the profession. The Act lays the foundation for the further development on sound lines of a profession which is of great importance but which has been sadly handicapped till now. The profession is to be warmly congratulated upon this favourable turn in its fortunes and will carry with it into the new stage of its development the good wishes of pharmacists.

"This legislation has lessons for pharmacy, whose problems are similar in several ways; moreover, the proceedings which led up to the Act have caused attention to be given from the pharmaceutical side to the relations between pharmacy and veterinary surgery which it is hoped will bring these two callings closer together for their mutual benefit in the service of the community. In particular, the need for the control of veterinary medicines provides a fruitful ground for co-operation."

* * * * *

SEVERE OUTBREAK OF FOWL-PEST IN HAMPSHIRE

On Tuesday last it was announced that poultry in a large area of Hampshire was threatened by a severe outbreak of fowl-pest. Later it was stated that the outbreak of the virulent form of the disease on two farms had been traced to a turkey farm, where 10,000 birds were found to be infected and have been slaughtered. The Ministry is satisfied that other recent outbreaks of fowl-pest in Hampshire have also been due to the spread of infection from the turkey breeding establishment.

* * * * *

THE CENTRAL VETERINARY SOCIETY

At the General Meeting of the Central Veterinary Society to be held at 2 p.m. at the Royal Veterinary College on Thursday, October 7th, the general subject will be demonstrations and discussions on Clinical Communications and *Post-mortem* Specimens.

The Secretary will be grateful if Fellows would take note of this arrangement and endeavour to provide suitable subjects for this meeting.

Will those offering to provide clinical cases please communicate with Professor McCunn at the Royal Veterinary College, giving some brief idea of the nature of the case and the demonstration to be made.

Arrangements can be made for the demonstration of *post-mortem* specimens and exhibition of living animals.

This is a clinicians' meeting and the success of the meeting depends upon the clinicians.

* * * * *

MEAT INSPECTION

In the issue of the *Farmer and Stock-breeder* of August 17th, Mr. L. Guy Anderson, President of the N.V.M.A., expresses "thorough agreement" with Mr. H. J. Boddie, who, writing in that periodical on July 27th, deplored the lack of liaison between meat inspectors in the slaughterhouses and veterinary surgeons in practice, with the result that valuable information concerning disease on the farm is lost.

"This weakness has long been recognised by my Association," says Mr. Anderson. "For many years now, we have advocated a centralised veterinary meat inspection service, with each abattoir under the direction of a veterinary officer who could act as a sort of Disease Intelligence Officer for his area. He would be in a position to warn local practising veterinary surgeons of any outbreak of disease—revealed on *post-mortem* examination—so that suitable treatment or preventive measures could be put in hand in the locality concerned, as Mr. Boddie suggests.

"Until meat inspection in this country is put on a proper basis—under veterinary control such as is to be found abroad—much preventable disease will, I am afraid, continue to occur."

ERADICATION OF BOVINE TUBERCULOSIS

The National Association for the Prevention of Tuberculosis prints as the first article in the August issue of its *Bulletin* a contribution under the above heading by a Welsh farmer, Mr. Hardy Naylor, from which we take the following extracts:

The eradication of bovine tuberculosis is the obvious preliminary step towards making the milk supply of the country satisfactory. During the past ten years, the Government through the Attested Herd Scheme of the Ministry of Agriculture, has spent £3,640,000 for this purpose. The net result is that only 13·9 per cent. of our milch herds are attested, a very disappointing result of much honest endeavour and spending of public money. At the same time the production of milk from tuberculin tested cows has been heavily subsidised, and again the proportion of such milk is far too small. It would seem that it will take at least another 50 years before the milk supply can be considered satisfactory. Throughout the entire milk industry there is a sense of frustration and a complete lack of any feeling of urgency in the matter. Indeed it is commonplace to assume that if a man owns an attested herd, he must either be a gentleman farmer or a pedigree breeder.

The Attested Herd Scheme is a very fine one; one of the by-products is that diseases other than tuberculosis are controlled as a result of the restrictions put on the purchase and sale of cattle under the scheme. The most vital link in the scheme, however, has never been established. This is the attempt to make remoter rural areas, where most of the young cattle are reared, into enclosed areas, where none but tuberculin tested cattle are allowed. The farmers in these remote and hilly districts are usually smallholders, who, until recently, did not produce milk for sale. The great national milk famine and the collection organisation of the Milk Marketing Board has caused even the most remote farms to be drawn into milk production. The immediate entry of these smaller farms into the Attested Herd Scheme is therefore of fundamental importance.

The immediate difficulty which has brought further progress towards a good milk supply to an end, is one relating solely to the farm buildings. Most of our farm buildings were built 100 years ago, and were never designed to meet the requirements of even a reasonable sanitary milk production standard. . . . The granting of a producer's licence under the Graded Milk Scheme, is the responsibility of the local health authority, and quite rightly they take this opportunity to insist on a decent standard of sanitary conditions. Unfortunately it is traditional to produce milk in the winter living quarters of the cattle. To make these quarters satisfactory today would cost £50 per cow. With a 3,000,000 cow population it is at once obvious that the milk industry cannot find this money. . . . The solution lies in abandoning the tradition that cows must be milked in their winter living quarters. On many progressive farms the idea has developed of taking the cows to a special milking chamber. . . .

The development of the New Zealand open-air dairying system in this country is due to Mr. Hosier of Marlborough, Wiltshire. Originally it was thought to use this system during the summer months only, but it has been found that the cows and the men attending them, are far healthier if the system is carried on throughout the year. Practised fairly extensively on our southern downlands where the soil is thin and fields are large, this system calls for *NO* outlay on permanent buildings. It is usual to move the milking sheds to clean ground every few days, and one by-product of the system is the enrichment of the soil by the dunging and treading by the cows. The best of these mobile open-air dairying systems, includes arrangements to record each cow's milk production, cool the milk by brine cooler, and sterilise the milking machine and utensils by steam.

To meet the needs of the farmers on heavy clay soils, where open-air dairying is only practicable in dry weather and where fields or herds are smaller, the system has been developed on the *UNIT* principle. A complete dairy unit contains an engine room to provide power for milking machines, water pumps for coolers, electric light, also a separate boiler room with water tanks and steam boiler, and a separate room containing a wash-up tank and cooler. This compact unit is mounted on a three wheel chassis and can be moved easily by a motor-car, horse or tractor. . . .

Open-air dairying could well be extended to almost all areas in this country, at least during the summer months. The open-air equipment could be set up near the farmstead in winter and even the smallest farmer should have the advantages of the "walk-through" milking shed, even for hand milking. Local health authorities should encourage the comparatively new idea of the milking parlour; only by this development can the vital question of eradication of bovine tuberculosis be settled.

* * * * *

[Disappointment is expressed in this article and the accompanying editorial on the slow progress of the attested herd scheme and the Government is blamed for its failure to regard the eradication of tuberculosis as a problem of great urgency. Attention is drawn to the progress made in the U.S.A., Canada and other countries. All sections of the community are agreed that incalculable benefits will follow the elimination of this disease and will welcome a steady acceleration in the number of herds entering the scheme. One may suggest, however, that the writers have overlooked the fact that the reduction in bovine tuberculosis in the U.S.A., Canada and other countries from an initial incidence much less than that in this country to a figure below 0·5 per cent. has taken over 25 years and has required an expenditure of vast sums to cover compensation for reacting animals. In view of the pressing need to maintain milk supplies at a high level, eradication of tuberculosis in this country must keep in step with the output of tuberculosis-free stock for replacement purposes.—Editor.]

* * * * *

Erratum.—*Vet. Rec.* January 3rd, 1948. **60.** No. 1. p. 3, line 44, "Treatment of Otitis in Dogs with Zinc Sulphophenate" (Nashed Helmy Bastawy), *for* "it has been used in a 0·05 per cent. solution" *read* "it has been used in a 0·50 per cent. solution."

CORRESPONDENCE

The views expressed in letters addressed to the Editor represent the personal opinions of the writer only and their publication does not imply endorsement by the N.V.M.A.

Correspondents are requested to write as briefly as possible

THE VETERINARY SURGEONS ACT

Sir,—As a member of the Loveday Committee, I have, naturally, followed by the progress of the recently passed Bill and the correspondence which has resulted from certain of its provisions, with the greatest interest. The Act which is now in the Statute Book makes lawful much which the Committee considered essential for the further advancement of the profession. There are, as in most legislation, omissions which many will regret and I agree with, I imagine, the majority of members in regarding as unfortunate the title under which the existing unqualified practitioners are to be known. I do feel, however, that too many rather harsh things have been said of those who, on our behalf, carried out the negotiations. I feel, too, that unjustified exaggeration has been used by some in describing the effects upon the profession of the criticised title.

If my impressions are correct, the great majority regard the main provisions of the Act as being necessary for accelerated advancement and particularly those which abandon the educational parochialism, which, excellent for a time, is now very much out of date. We believe there has now been made possible an effort greater than any in the past. Acknowledgment of this has been lacking in much of the correspondence I have read; concentration has been upon one unfortunate provision. Advice has been given to the Council as to what they should do; things have been said which, it seems to me, indicate that all which could has not been done. Some correspondents suggested action which could only have been successful if the Council had been in a position to dictate.

The Bill was a Government one, and, therefore, the voting of Government members would be in accordance with the direction given by the Whips. This ensured its passing into law and freedom from the wrecking tactics always possible in a private Bill. There would have been opposition to a private Bill and it might easily have reached the Statute Book in a form different from the new Act. Therefore, as I see it, the Council were in the position of negotiators only and, in respect to the criticised title, almost of supplicants. A Government Bill has, of course, Cabinet sanction and what possession or influence the R.C.V.S. have which would enable them to dictate to, or bargain with, either Cabinet or Minister, I cannot imagine. The Government's case would, doubtless, be that a number of people have acquired rights, and, even though unqualified, ought to be safeguarded. That, surely, cannot be criticised. Therefore, they would say, let them be put in a position in which their rights are secure, but, in return, make it obligatory that they accept certain responsibilities. They must make themselves amenable to the disciplinary powers of the R.C.V.S., which will ensure that they carry out their work, and behave, in a responsible manner. Let them be given a title which, whilst distinguishing them from the qualified veterinarian, will indicate that they have some standing. As I have said, I deprecate the title chosen but I

must admit that there is some justification for it. Let me also admit that I have not been privy to the discussions or negotiations; what I have written is assumption only.

What have we gained by this Act? I suggest that we have been authorised to make far reaching changes in our educational system, changes which will not only be of advantage in themselves but will have their effect upon our status. Although some unqualified men remain for awhile, they will gradually disappear; no addition to their ranks is possible. I cannot think of anything we lose. There may be, for a while, some confusion in certain quarters in regard to the two classes; this will be dispersed in time. There cannot, or should not, be competition. If the limited number of unqualified men are in a position seriously to compete, then surely there has been, and is, something very wrong with our education and training. How can the man who has "picked up" his knowledge, or received a short and sketchy training, compare with the diplomate whose technical education has lasted a full five years and who is, we claim with justification, a scientist? Those who urgently require our assistance will not be swayed by what we, and others, are called. They will recognise and demand, as they have done in the past, those who able adequately to help them. There will, doubtless, remain the knowing [*sic*] few who believe they can get their advice cheaply. They have existed in the past; have they made any considerable financial difference or been satisfactory clients?

As is known, I am not a practitioner and it may be said that I am not sufficiently in touch with this, the largest branch, of our work. This may be true. On the other hand, during the past 15 years, I have been in a position to obtain a reasonably good general view of the work of the profession. I have also, to a not inconsiderable extent, been able to judge its effects in official and non-official circles. My experience enables me to say that never before has our work been appreciated as it is to-day and never has that appreciation increased so rapidly as during the past two decades. I must admit, however, that although officialdom honestly expresses appreciation, it is strangely backward in giving concrete recognition.

A number of suggestions have been made as to what we should call ourselves. Does it matter what we are called so long as it is not derogatory? Veterinarians we have been and are; I, for one, see no reason for any change. What does matter is that we should not do anything to lower our reputation but endeavour, by education, by research and by our scientific treatments, as well as by our bearing towards our fellow men, to continue our advance; that we should cease to shout about what we are or should be and devote ourselves, as have so many in the past, to proving our worth. Shouting can be answered with shouts and jeers; proof is irrefutable.

It has also been suggested that members of the Council should resign. What is their fault? They have failed to obtain alteration to a designation which many, perhaps a majority, dislike. That they tried, we know; whether there may be some justification for the title does not seem to have occurred to some. The good parts of the Bill, now an Act, which were negotiated, have, by some, been ignored; the regular unselfish work of the Council, often undertaken by members at considerable personal inconvenience and financial loss, appears to be forgotten. What it means to, say, a busy practitioner, to attend Council and Committee meetings in London, only equally busy practitioners can judge. How, many days absence from work have the negotiations over the new Act necessitated? Surely, unfairly to criticise members, and cry for their dismissal, cannot be to our credit! I wonder how many support such a cry? Few, I am sure. I wonder, too, if the few are prepared to take up the burden of office? I hope that, if invited to do so, they would not reply that they "have married a wife" or "bought a yoke of oxen."

All who have taken part in the recent correspondence have done so, doubtless from that jealousy of the interests of the profession which is right and proper. Cannot we all, whatever our views, forget our differences? I feel that another era has dawned for the profession. The days are difficult; the problems many. The solution of some of our national problems lies with us. Cannot we drop our differences and criticisms, and, together, do what we can to bring about better days? Therein will lie our further salvation; therein will prove further our worth.

Yours faithfully,

High Drive House,
Woldingham, Surrey.
August 23rd, 1948.

JOHN SMITH.

* * * * *

RESISTANCE TO TICK-BORNE DISEASE

Sir,—I have just read the excellent paper by Dr. Stableforth in your issue of June 26th. It has long appeared to me that further advances in the study of infectious disease must now result from a study of contributing causes and, in the broadest sense, environmental factors.

I would like to comment on what I believe to be a misconception quoted by Dr. Stableforth, with regard to the immunity of Zebu cattle to piroplasmosis (and anaplasmosis). The widespread belief that animals of Zebu or Brahmin descent have an innate tolerance to piroplasmosis appears to be based on the fact that clinical manifestations of the disease are less severe in animals which are hardened by an admixture of some percentage of tropical blood.

All cattle, of whatever breeding, reared under conditions of tick infestation acquire early experience of piroplasmosis and anaplasmosis with consequent premunity. This premunity is not absolute and can be broken down by adverse conditions. Few workers appear to recognise this fact although these *rechutes parasitaires* have been recorded in Algeria (Serjent, 1945) and in Jamaica (Arnold, 1948). It is probable that most clinical cases of anaplasmosis in the tropics are due to breakdown in premunity. In the case of anaplasmosis this premunity is probably lifelong but in the case of piroplasmosis it appears to fade after three to four years in the absence of reinfection.

Jamaica is one of the few parts of the world where it has been possible to observe adult Indian cattle exposed for the first time in their life to ticks (and tick-borne disease). This situation occurs through the importation of Brahmin breeding stock from the Southern United States of America, which are tick-free and where piroplasmosis is unknown and anaplasmosis not widespread. Most of these animals have no previous experience of either tick-borne disease, and adult animals suffer attacks of anaplasmosis and/or piroplasmosis equally severe as those in imported animals of European breeds (as judged by general systemic symptoms, haemoglobin levels and parasite counts). Some cases of anaplasmosis, for which there is no specific, terminate fatally.

It is felt that the resistance of Indian cattle to tick-borne disease usually ascribed to innate immunity is actually due to premunity acquired during calfhood.

Yours faithfully,

Department of Science and Agriculture,
Jamaica.
August 19th, 1948.

R. M. ARNOLD.
Veterinary Investigation Officer.

References.—ARNOLD, R. M. (1948.) Proc. IVth Int. Conf. Trop. Med. & Malaria. In Press.
SERJENT, E. (1945.) "Etudes sur les piroplasmoses bovines." Rep. Inst. Past. Algeria.

DISEASES OF ANIMALS ACTS, 1894 TO 1937, AND AGRICULTURE ACT, 1937 (PART IV).

Summary of Returns of Confirmed Outbreaks of Scheduled (Notifiable) Diseases

Period	Anthrax	Foot-and-mouth	Fowl Pest	Parasitic Mange*	Sheep Scab	Swine Fever
July 16th, to 31st 1948	5	—	4	—	2	—
Corresponding period in—						
1947	7	2	65	—	1	1
1946	3	1	—	1	1	6
1945	6	1	—	1	1	37
Jan. 1st to July 31st, '48	55	—	215	1	29	21
Corresponding period in—						
1947	55	103	654	1	35	17
1946	60	30	—	5	39	288
1945	65	99	—	6	47	579

NOTE.—The figures for the current year are approximate only.

* Excluding outbreaks in Army Horses.

Tuberculosis (Attested Herds) Schemes

The number of Attested Herds, *i.e.*, herds officially certified as free from Tuberculosis as at July 31st, 1948, was as follows:—

ENGLAND	WALES	SCOTLAND	TOTAL (GREAT BRITAIN)
11,630	11,963	10,711	34,304